



1. SCOPE

This document details the application of SOP 2008/0353/00 applicable to GEC 11kV switchgear type BVRP 500, as issued by the Energy Networks Association.

2. ISSUE RECORD

This is a controlled maintained document.

All copies printed via the Intranet or photocopied will be deemed uncontrolled.

Issue Date	Issue No	Author	Amendment Details
Oct 2008	1	Geoff Wood	Original Issue

3. ISSUE AUTHORITY

Author	Owner	Issue Authority
Geoff Wood Lead Engineer Asset Risk	Alastair Ferguson Asset Risk Manager	Jim Sutherland Asset Strategy Director

4. SOP DETAILS

EQUIPMENT TYPE: GEC 11kV Switchgear type BVRP 500
ORIGINATING DNO ScottishPower EnergyNetworks

DATE: 24/07/2008
**NUMBER INSTALLED IN
ENERGY NETWORKS NORTH:** None

**NUMBER INSTALLED IN
ENERGY NETWORKS SOUTH:** 75

REASON: During routine trip testing, the engineer noted that there was no CT output from one or more phases on two circuit breaker units. Following closure of one of the circuit breakers, and due to circuit conditions, arcing across the insulated portion of the feeder cable gland was noted (FPIs installed), requiring emergency disconnection of the switchboard for investigation. The investigation showed there to be incomplete engagement of the main contacts within the affected circuit breakers, with some contacts not making connection due to material erosion that had occurred during previous fault clearance. Although these contacts were not excessively eroded they failed to make contact due to reduced movement of all the contacts within the OCB. The investigation showed that pitting on the fixed contacts prevented full stroke of the moving contact due to the mechanical closing energy being consumed by the ‘juddering’ contact entry.

STATUS IN INITIATING DNO:

SPEN APPLICATION: As SPEN Application
No BVRP 500 circuit breaker shall be closed until it has been inspected for contact engagement, as defined in SPEN document SWG-10-056, Issue1, “Replacement of main spring buffer and contact engagement checks on GEC BVRP 500 11kV switchgear”. Following this inspection, no BVRP 500 circuit breaker that has cleared fault shall be closed until it has again been inspected.

Following a fault trip, NO ACCESS is allowed into the substation for a period of 1 hour, or until the

substation has been made NOT LIVE by remote switching.

There is no restriction to the opening of circuit breakers.

REMEDIAL ACTION:

All BVRP circuit breakers are to have contact engagement checks undertaken to programme in line the above detailed procedure. Consideration is to be given to a programmed replacement of some BVRP 500 switchboards to reduce the impact of repeated contact engagement inspections following future circuit breaker operations.